WHAT IS CLAIMED IS:

1. A method for producing an aluminum/ceramic bonding substrate, said method comprising the steps of:

causing an aluminum member having a purity of 99.5 % or more to contact at least one side of a ceramic substrate; and

heating the aluminum member and the ceramic substrate at a temperature of 620 to 650 ℃ in an inert gas to bond the aluminum member directly to the ceramic substrate.

2. A method for producing an aluminum/ceramic bonding substrate as set forth in claim 1, wherein said ceramic substrate is a ceramic substrate containing aluminum nitride as a principal component.

3. A method for producing an aluminum/ceramic bonding substrate as set forth in claim 1, wherein said ceramic substrate is a ceramic substrate containing alumina as a principal component.

4. A method for producing an aluminum/ceramic bonding substrate as set forth in claim 1, wherein said purity of said aluminum member is 99.9 % or more.

5. A method for producing an aluminum/ceramic bonding substrate as set forth in claim 1, wherein said inert gas is nitrogen gas.

6. An aluminum/ceramic bonding substrate comprising:

a ceramic substrate; and

an aluminum member having a purity of 99.5 % or more, said aluminum member contacting at least one side of said ceramic substrate to be bonded directly thereto,

wherein a peel strength between said aluminum member and said ceramic substrate is 49 N/cm or more.

7. An aluminum/ceramic bonding substrate as set forth in claim 6, wherein said ceramic substrate is a ceramic substrate containing aluminum nitride as a principal component.

8. An aluminum/ceramic bonding substrate as set forth in claim 6, wherein said ceramic substrate is a ceramic substrate containing alumina as a principal component.

9. An aluminum/ceramic bonding substrate as set forth in claim 6, wherein said purity of said aluminum member is 99.9 % or more.

10. A power module using an aluminum/ceramic bonding substrate as set forth in claim 6.